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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,633	05/14/2001	Richard B. Olsen	060967-0009	1415
9629	7590	05/04/2006	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			MILEF, ELDA G	
			ART UNIT	PAPER NUMBER
			3628	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/855,633	Applicant(s) OLSEN ET AL.	
	Examiner Elda Milef	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.  
     4a) Of the above claim(s) 1-9, 16, 21-24 and 28-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-15, 17-20 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/14/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election of species of Group 2, claims 10-15, 17-20, and 25-27 in the reply filed on 3/17/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Information Disclosure Statement***

2. There are numerous references to non-patent journal articles referred to in the specification. In order for these references to be considered on their merits, they must be in a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Art Unit: 3628

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because of the improper use of claim language (i.e. comprising the steps of :). Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: p. 38, line 13 "rime" should be -time--0.

Appropriate correction is required.

6. The attempt to incorporate subject matter into this application by reference to Provisional Application No. 60/274,174 is ineffective because "Essential material"

Art Unit: 3628

is defined >in 37 CFR 1.57 (c)< as that which is necessary to (1) \*\*>provide a written description of the claimed invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and set forth the best mode contemplated by the inventor of carrying out the invention as required by the first paragraph of 35 U.S.C. 112, (2) describe the claimed invention in terms that particularly point out and distinctly claim the invention as required by the second paragraph of 35 U.S.C. 112 or (3) describe the structure, material, or acts that correspond to a claimed means or step for performing a specified function as required by the sixth paragraph of 35 U.S.C. 112. In any application that is to issue as a U.S. patent, essential material may only be incorporated by reference to a U.S. patent or patent application publication. The practice of permitting incorporation by reference of material from unpublished applications in which the issue fee was paid was discontinued by rule on October 21, 2004.

Art Unit: 3628

*Claim Objections*

7. Claims 10-15 are objected to because of the following informalities:

Claim 10 (line 6): the word "snore" should be --more--.

Claim 15: the word "effective" is typed two times.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 10-15, 17-20, 25-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Art Unit: 3628

Claim 10 contains the limitation "current system position." This limitation was not described in the specification in such a way to enable the Examiner to understand its meaning.

Claims 11-15, 17-20, 25-27 are rejected because of their dependency to the rejected claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 14-15, 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 14: It is unclear what is meant by effective return ( $X_{eff}$ ,  $\Delta t$ ). Is this a formula, a definition?

Re claim 15: It is unclear what is meant by effective effective return ( $f_{xf}$ ). Is this a formula, a definition?

Claims 18-20 recite the limitation "the weighted trade recommendations". There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 3628

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 10, 12-15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard (US Patent No. 6,016,483) in view of Li (US Patent No. 6,832,210).

**Re claim 10:** Rickard disclose:

(a) receiving price data for an asset over one or more computer networks (The opening prices and corresponding volatilities, once determined by the present invention, can be output to market makers...)-see col.7 (13-17) and col. 8 (53-65);

(b) receiving current system position information- The Examiner is interpreting this limitation to mean the actual

Art Unit: 3628

position of the market maker as disclosed by Rickard in col. 7 (18-23);

(c) storing said received asset price data and said current system position information in a computer-readable medium (A storage device 3 is coupled to the controller2. The storage device 3 can comprise a database for storing information received from the market makers and for storing the results of processing...)-see col. 8, (46-52);

(e) calculating trade recommendation regarding said asset based on said trade recommendation information from each of said trading sub-models (Using these five factors as input to a theoretical option pricing model, such as, for example, the Black-Scholes model or the Cox-Ross-Rubenstein model, one can determine the theoretical fair option value. Option traders use the theoretical option value as a pricing guide...-see col. 3 lines 37-44;

Although Rickard calculates trade recommendation as disclosed in step (e) above, Rickard does not specifically disclose (d) calculating trade recommendation information wherein each sub-model is based on a different time of day. Li however, teaches (The real time trading system 30 is designed to provide up-to-minute equity trading recommendations.)-see col. 5 lines 16-18.

Art Unit: 3628

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard to include calculating trade recommendations in real time as was taught by Li in order to provide the user with information in real time reflecting the changes in market price of an asset in order to aid the user in analyzing investments.

**Re claim 12 & 13:** Rickard discloses (factors that influence an option's price) -see cols. 3-4, (Theoretical option pricing models ...reflect option's sensitivity...), and cols. 6-7 ("volatilities").

**Re claims 14 & 15:** For examination purposes, the Examiner is interpreting claims 14 and 15 to mean the method as in claim 12, wherein a risk-sensitive performance measure is used. Rickard discloses (Theoretical option pricing models produce values that reflect an option's sensitivity to changes in one of the five quantifiable factors...)-see col. 3, lines 51-53 and cols 3-11.

**Re claim 17:** Rickard disclose:

wherein each sub-model comprises:

(a) a price collector component-see col. 8 (53-58) ;

Art Unit: 3628

(b) a price filter component -see col. 9 (3-21), Fig. 2  
(Controller 2);

(c) a price database component -see col. 8 (47-52);

(d) a gearing calculator components ("The present invention a set of opening implied volatilities that set a reasonable compromise between these extremes. From these implied volatility value(s), the corresponding price is determined for each option series. The present invention also enables an exchange (or other entity) to determine the compromise point between these two positions. Alternatively, this compromise point can be market driven at the opening by a number of predetermined variables and/or be required to fall within specified bounds.") -see col. 7, (1-9) and cols. 10, line 6- col. 17.

(e) a deal acceptor component-see col. 17, (60-61);

(f) a book-keeper component-see Fig. 2, col. 9(41)-col. 17, and (various controller functions).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard in view of Li as applied to claim 10 above, and further in view of Wallman (US Patent No. 6,360,210).

**Re claim 11:** Although Rickard disclose using more than one sub-model ("theoretical option pricing model, such as, for

Art Unit: 3628

example, the Black-Scholes model or the Cox-Ross-Rubenstein model")-see col. 3, Rickard and Li do not explicitly disclose wherein 24 sub-models are used. Wallman however, teaches using various pricing models (All this analysis is known and part of various capital asset pricing models, modern portfolio theory models, value-at-risk and sensitivity models used for valuing portfolios of securities derivative and other instruments, etc.)-see col. 10 lines 3-7. Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), see MPEP §2144.05. Therefore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Li to include many pricing models in an analysis as taught by Wallman in order to assist the user in managing their investment portfolio by reducing risk.

12. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard and Li as applied to claim 10 above, and further in view of Black (US Patent No. 6,012,042.

Art Unit: 3628

**Re claim 18:** Rickard disclose the step of calculating a trade recommendation regarding said asset based on said trade recommendation information from each of said trading sub-models- col. 3 lines 37-44.

Rickard and Li do not explicitly disclose that the calculation is performed by summing the weighted trade recommendations of the sub-models. Black however, teaches (The technical and fundamental data are therefore preferable variably weighted and a user can customize their analysis.)-see col. 10 lines 65-67.

Black uses an analysis process engine which processes disparate data(fundamental and technical data) in accordance with a set of rules, combines the data into a uniform format, and forwards the results to the user for further analysis.-see col. 3. The user can then customize the weights given to each of the data in order to customize the analysis.

Art Unit: 3628

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Li to include combining the results of fundamental and technical data analysis into a uniform format and weighing the results of the analysis in order for the user to customize the analysis data to suite their investment styles and objectives.

**Re claims 19 & 20:** Rickard and Li do not disclose wherein the step of calculating a trade recommendation regarding said asset based on said trade recommendation information from each of said trading sub-models is performed by summing the weighted trade recommendations of N sub-models within the last T hours, where N and F are positive integers and dividing that sum by the total number of sub-models. Black however, teaches (Daily, weekly, monthly and yearly charts show the progress of the stock over time, and conventional indicators can be used on the combined or merged data to better illustrate the results produced by the security analysis system.-see col. 9 lines 59-63) and (The technical and fundamental data are therefore preferably variably weighed, and a user can customize their analysis-see col. 10 lines 65-67), also col. 11 lines 1-17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Li to include combined data analysis, variably weighing the combined

Art Unit: 3628

data, and displaying the results of the combined data showing the change in valuation of an asset over time as was taught by Black in order to provide the user with a unified format for analysis of an asset's performance.

13. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard and Li as applied to claim 10 above, and further in view of Stewart (US Patent No. 6,195,103).

**Re claim 25:** Although Rickard disclose theoretical option pricing models that produce values that reflect an option's sensitivity to changes in one of five quantifiable factors. The sensitivities include measures of change in option values in relation to a change in time, price, and volatility -see col. 3 line 29- col. 4 lines 28, Rickard and Li do not specifically disclose calculating the price change, volatility data calculated at regular intervals of a basic grid interval.

Stewart however, teaches a Volatility Plot using time series data to graph stock prices, time, and volatility. -see cols. 5-6, col. 3 lines 1-8 also, see col. 1, lines 46-67, col. 2, lines 58-67. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Li to include a graphical display of time series data representing the variables of price change, time and

Art Unit: 3628

volatility as taught by Stewart in order to provide the user with data in a form that permits rapid and accurate evaluation of changes in the data from one time to the next.

14. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard, Li, and Stewart as applied to claim 25 above, in further view of Makivic (US Patent No. 6,061,662).

**Re claims 26 & 27:** Rickard, Li and Stewart do not explicitly disclose wherein volatility is measured as a mean of absolute log price change, and wherein the mean is taken over the last M consecutive observation of log price change over the basic grid interval, where M is a positive integer. Makivic however, teaches (The system includes means for computing implied volatility and sensitivity with respect to volume, as discussed above, using the Black-Scholes model and current market prices. The user can mix historical and implied volatility to obtain estimates of future volatility. The user can also experiment with volatility in a more sophisticated fashion than with previous known systems, since, in addition to the historical, implied, or mixed volatility estimate, the system implements the following possibilities for volatility dynamics assuming Gaussian and Cauchy processes.

Art Unit: 3628

Geometric random walk stochastic volatility; Volatility defined by a generalized autoregressive conditional heteroskedastity (GARCH) process; Deterministic time-dependent volatility scenarios; Deterministic volatility defined as a polynomial function of underlying price. These choices for volatility modeling are state-of-the-art and also believed to be impossible to implement by any other known method in a scenario-type analysis.-see col. 17 lines 5-23.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard, Li, and Stewart to include calculating volatility using historical, implied, or mixed volatility estimates as was taught by Makivic so that the user can perform quantitative and statistical analysis of an asset.

### **Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brooks, Chris. A Double-threshold GARCH Model For the French Franc/Deutschmark Exchange Rate. Journal of Forecasting. Chichester: Mar 2001. Vol. 20, Iss. 2; pg. 135.

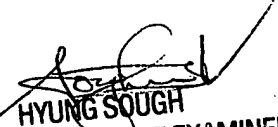
Art Unit: 3628

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elda Milef whose telephone number is (571)272-8124. The examiner can normally be reached on Monday - Thursday 8:30am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571)272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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